

**UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION
Metal and Nonmetal Mine Safety and Health**

REPORT OF INVESTIGATION

**Surface Nonmetal Mine
(Construction Sand and Gravel)**

**Fatal Electrical Accident
May 19, 2006**

**Kinder Sand Company LLC
Kinder Plant
Kinder, Allen Parish, Louisiana
Mine ID No. 16-00555**

Investigators

**Ralph Rodriguez
Supervisory Mine Safety and Health Inspector**

**Jerry Y. Anguiano
Mine Safety and Health Inspector**

**Stephen B. Dubina
Electronics Engineer**

**Originating Office
Mine Safety and Health Administration
South Central District
1100 Commerce Street, Room 462
Dallas, Texas 75242-0499
Edward E. Lopez, District Manager**



OVERVIEW

On May 19, 2006, Joseph Kowarsch, self-employed electrician, age 77, was fatally injured when he contacted an energized electrical circuit. He was testing a motor before installing it on a screen.

The accident occurred because safe operating procedures were not implemented to ensure that the electrical circuit was de-energized, locked out, tagged, and tested prior to performing work on the circuit.

GENERAL INFORMATION

Kinder Plant, a dredging operation owned and operated by Kinder Sand Company, LLC, was located about 5 miles west of Kinder, Allen Parish, Louisiana. The principal operating official was M. D. Bryant, president. The mine operated one 10-hour shift, 5-6 days per week. Total employment was 17 persons.

Sand was dredged from a 15-acre pond and pumped to an on-site plant where it was screened, washed, dewatered, and dried. Finished products were sold in bulk and in 50-pound bags.

The last regular inspection at this operation was completed on May 18, 2006.

DESCRIPTION OF THE ACCIDENT

On the day of the accident, Joseph Kowarsch (victim) arrived at the mine at 2:15 p.m. Dennis Cormier, assistant plant manager, had called Kowarsch at home to request his services as a contract electrician at the mine.

Kinder had installed a used dewatering screen at the plant on May 18, 2006. The screen was powered by two 7.5-horsepower motors, one mounted on the north side of the screen and one on the south side of the screen. Wayne Bell, plant manager, connected the screen motors on May 19 and attempted to start them. However, the north motor caused the circuit breaker to trip. Several attempts were made to start the motor before Bell decided to call an outside electrician.

Curtis Morgan, a contract electrician with whom Kinder contracts on a regular basis, was not available that day. Cormier mentioned to Bell that Kowarsch had previously given him a business card and might be available. Bell told Cormier to contact Kowarsch.

After arriving at the mine, Kowarsch checked the north and south motors with a volt meter and discovered that the north motor was damaged. Bell sent Donnie Corkran, operations manager, to Elton, Louisiana to get a new motor while Paul Oliver, dredge operator, and Brandon Lafleur, laborer, assisted Kowarsch with removal of the damaged motor.

The damaged motor was placed near the plant electrical building. Kowarsch decided to retest the damaged motor to verify it was unusable while he waited for another motor to arrive. He attached a 21-foot length of white cable from the damaged motor to the motor control module in the electrical building. Kowarsch indicated that the motor was bad and removed the cable from the motor. About that time, Corkran returned from Elton with two new motors.

Kowarsch indicated to Bell that he wanted to test one of the new motors before installing it. About that time, Bell went to his office to make a phone call. The motor was placed on the tailgate of the Toyota pickup truck that Corkran had been driving. Kowarsch connected the white cable to the motor and went into the electrical building.

Kowarsch evidently turned on the power at that time because Lafleur and Oliver said the motor was humming and the motor shaft was turning slowly. Kowarsch came to the electrical building door and said it was “single phasing”, went back inside, and the motor stopped humming. He came back outside, disconnected the white cable from the motor, and said he wanted to check the (motor) wiring.

Kowarsch went back into the electrical building and returned with a volt meter. After checking the motor leads, Kowarsch commented again that it was “single phasing”. He then went back inside the electrical building and came out again.

About 4:55 p.m., Bell and Corkran returned to the tail gate of the pickup truck and saw that Kowarsch was reading the wiring instructions on the inside of the motor cover (weather head). Kowarsch told Bell he needed to make some changes to the motor leads.

After regrouping the motor leads, Kowarsch said he was ready to reconnect the white cable to the motor. Kowarsch reached down to the ground and picked up the white cable with one hand then grasped the bare conductors with his other hand. He made a noise, bent over, and fell against the tailgate of the pickup.

Bell positioned himself behind Kowarsch and jerked the white cable out of his hands. Kowarsch then fell to the ground on his backside. Oliver ran inside the electrical building and shut off the power at the circuit breaker.

Corkran brushed the backside of his hand against Kowarsch’s body to verify that he was not energized then instructed Bell to get help while he, Lafleur and Stephen Chaney, laborer, began cardio-pulmonary resuscitation (CPR). Bell went to the break room and called for emergency medical services (EMS), returned with a protective barrier from a first-aid kit and assisted the others with CPR. EMS arrived about 5:15 p.m. and transported Kowarsch to a local hospital, where he was pronounced dead.

INVESTIGATION OF THE ACCIDENT

MSHA was notified at 5:15 p.m. on the day of the accident by a telephone call from Wayne Bell to Mitchell Adams, assistant district manager. An investigation was started the next day. An order was issued pursuant to section 103(k) of the Mine Act to ensure the safety of miners. An accident investigation team from MSHA traveled to the mine, made a physical inspection of the accident scene, interviewed employees, and reviewed documents and work procedures relevant to the accident. MSHA conducted the investigation with the assistance of mine management and employees.

DISCUSSION

Location of the Accident

The accident occurred about 10 feet from the door of the plant electrical building. The area was flat and dry. The weather was clear and sunny. The victim was standing on a concrete pad.

Motor

The motor being tested was rated 7.5-horsepower and was to have been installed on a Deister vibrating (dewatering) screen. It had nine external lead wires connected to the internal electrical fields. Connecting each phase wire of the incoming power to a correct delta grouping of three motor leads would have resulted in the motor operating at 230 volts. Similarly, connecting each phase wire of the incoming power to one correct motor lead each would have resulted in the motor operating at 460 volts. Connecting the incoming phase wires to any other grouping of the motor leads would have resulted in some fault condition for the motor such as “single phasing”.

Motor Control Module

The motor control module was located in the plant electrical building and contained a motor starter, circuit breaker, and other control circuitry. The motor starter was a NEMA size #1 with heater strips that were sized appropriately. The control circuit for the motor starter operated at 120 volts, single phase.

The motor starter controls, located in the plant control building, were in the OFF position at the time of the accident. However, the contacts in the C-phase circuit of the motor starter were fused together when inspected. Even though it was not possible to determine when this defect occurred, investigators believe the contacts fused together while Kowarsch was testing the new motor and that this condition contributed to the accident.

The circuit breaker was a 30-ampere, thermal magnetic type with an instantaneous trip adjusted to the maximum 350 amperes. Since the motor nameplate rating was 9.3 amperes at 460 volts, the instantaneous trip should have been set no higher than 65 amperes, which was approximately 700 percent of the rated full-load current of 9.3 amperes. Although this condition constituted a violation of a mandatory safety standard, it did not contribute to the accident and was cited separately.

White Cable

The white cable used to test the damaged motor and the new motor was a 21-foot section of Romex type cable that was cut on-site from a 100-foot spool. The cable had three #14 AWG conductors and a ground wire. The cable was rated for 600 volts.

Training and Experience

Joseph Kowarsch was a master electrician with 58 years experience and worked at this mine for about two hours but had no other mining experience. He had received site-specific hazard awareness training in accordance with 30 CFR, Part 46.

ROOT CAUSE ANALYSIS

A root cause analysis was conducted and the following factors were identified:

Causal Factor: Management policies and controls were inadequate and failed to require that the electrical circuit was de-energized, locked out, tagged, and tested before work was performed on the circuit. Management and the contractor failed to discuss the possible hazards and all actions necessary to safely complete the maintenance task.

Corrective Action: Management should conduct a risk assessment with each contractor to identify and correct all possible hazards and establish safe procedures before the contractor begins work at the mine.

CONCLUSION

The accident occurred because safe operating procedures were not implemented to ensure that the electrical circuit was de-energized, locked out, tagged, and tested prior to performing work on the circuit. Management failed to discuss all safety hazards and safety requirements with the contractor prior to commencement of the assigned task.

ENFORCEMENT ACTIONS

Kinder Sand Company LLC

Order No. 625933 was issued on May 19, 2006 under provisions of Section 103(k) of the Mine Act:

A fatal accident occurred at this operation on May 19, 2006, when an electrician was troubleshooting a 460-volt electric motor placed on the tailgate of a pickup truck. This order was issued to assure the safety of all persons at this operation. It prohibits any work in the affected area until MSHA determines that it is safe to resume normal operations as determined by an authorized representative of the Secretary of Labor. This order was initially given to the operator verbally over the telephone.

This order was terminated May 23, 2006 after conditions that contributed to the accident no longer existed.

Citation No. 7886308 was issued on June 22, 2006 under the provisions of Section 104(a) of the Mine Act for a violation of 56.12017:

A contract electrician was fatality injured on May 19, 2006 when he came into contact with an energized 460-volt conductor while connecting the conductors to a motor. The electrician had failed to de-energize and lockout the power circuit. The electrician was being assisted by two plant employees to do the mechanical work.

This citation was terminated on June 22, 2006 after the operator addressed lockout procedures with all mine employees.

Joseph Kowarsch

Joseph Kowarsch was a sole proprietor acting as a contractor. Upon Kowarsch's death, the sole proprietorship ceased to exist and there was no entity to cite for any violations of mandatory safety standards attributable to Kowarsch.

Approved: _____

Edward E. Lopez
District Manager

Date: _____

APPENDIX A

PERSONS PARTICIPATING IN THE INVESTIGATION

Kinder Sand Company LLC

Wayne Bell.....plant manager

Donovan Corkran.....operations manager

Mine Safety and Health Administration

Jerry Y. Anguiano.....mine safety and health inspector

Stephen B. Dubina.....electronics engineer

Ralph Rodriguez.....supervisory mine safety and health inspector